Air Quality Permitting
Statement of Basis

August 11, 2004

Tier II Operating Permit and Permit to Construct No. T2-040008

Western Electronics, Inc., Meridian

Facility ID No. 001-00190

Prepared by:

Harbi Elshafei, Air Quality Permitting Analyst 3
AIR QUALITY DIVISION

FINAL PERMIT

Table of Contents

Acronyms, Units, and Chemical Nomenclature

AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
DEQ	Idaho Department of Environmental Quality
Department	Department of Environmental Quality
EL	screening emissions levels
gr/dscf	grains per dry standard cubic foot
HAP	hazardous air pollutants
IDAPA	A numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
lb/hr	pound per hour
PCB	printed circuit board
PM	particulate matter
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PTC	permit to construct
Rules	Rules for the Control of Air Pollution in Idaho
TAPs	toxic air pollutants
UTM	Universal Transverse Mercator
Western	Western Electronics, Inc.

1. PURPOSE

The purpose for this statement of basis is to satisfy the requirements of IDAPA 58.01.01 Subpart 400 et seq. and 200 et seq., Rules for the Control of Air Pollution in Idaho, for issuing Tier II operating permit and permit to construct.

2. FACILITY DESCRIPTION

Printed circuit boards (PCB) are manufactured by attaching electronic components to printed boards. During the manufacture of PCB the boards move through a series of process steps. The boards require attachment of parts using solder paste. The part to be soldered using the paste is positioned on the paste and sent through a reflow oven where the metallic components of the paste melt and the parts are attached. Other parts are fluxed and the board is passed over a fountain or wave of liquid solder compound. The natural gas fuel-burning equipment provides a heat supply to make the solder molten and heat the building.

3. FACILITY / AREA CLASSIFICATION

Western Electronics, Inc. (Western) is located in the city of Meridian. Meridian is located within Air Quality Control Region (AQCR) 64 and the Universal Transverse Mercator (UTM) zone is 11. Western is in Ada County. This area is designated as attainment or unclassifiable for all criteria air pollutants.

The facility is not a designated facility as defined in IDAPA 58.01.01.006.27, nor the facility is major as defined by IDAPA 58.01.01.205. The potential to emit of any criteria air pollutant is below 100 T/yr, and potential emissions rates for hazardous air pollutants (HAPs) are below 25 T/yr collectively, and less than 10 T/yr for any single HAP; therefore, Tier I operating permit requirements do not apply.

The primary Standard Industrial Classification for the facility is 3679, Electronic Components, Not Elsewhere Classified.

The Aerometric Information Retrieval System (AIRS) information provided in Appendix A of this statement of basis for each regulated air pollutant at Western. The AIRS facility classification is a 'B", which is defined as a source with actual and potential emissions of any criteria air pollutant less than 100 T/yr. The AIRS information is entered into the U.S. Environmental Protection Agency database.

4. APPLICATION SCOPE

On March 1, 2004, Western has submitted an application requesting to revise the facility's Tier II operating permit and permit to construct, issued March 13, 2003. The request is as follows:

- Change the name of the facility's responsible official.
- Delete Permit Condition 4.10, Flux Solids Content Monitoring.

4.1 Application Chronology

3/1/04	DEQ received an application from Western to revise Tier II operating permit and permit to construct No. 001-00190. The permit number assigned to this project was T2-040008.
3/19/04	DEQ issued an incompleteness letter to Western for project No. T2-040008.
4/9/04	DEQ received additional information from Western.

5/7/04	DEQ determined the T2-040008 application complete.
5/28/04	DEQ requested from Western to submit additional information regarding the TAPs emissions from the facility.
5/28/04	Western requested to review the draft permit prior to final issuance.
6/7/04	DEQ received additional information from Western.
6/30/04	DEQ sent Western draft T2-040008 for their review.
8/2/04	Western submitted to DEQ the Tier operating permit processing fee.
8/3/04	Western sent DEQ an email and indicated that they have no comments on the draft T2-040008.
8/6/04	DEQ sent DEQ's Boise Regional Office a copy of the draft permit and the statement of basis for their review. No comments were received.

5. PERMIT ANALYSIS

This section of the statement of basis describes the regulatory requirements for this Tier II operating permit and permit to construct.

5.1 Equipment Listing

The following are the types of the re-flow ovens and the wave soldering machines that are used at Western:

1) Vitronix Reflow Oven
Model number: SMR 500
Rated capacity: 35,640 square inch boards/hour

2) Vitronix Reflow Oven
Model number: Unitherm 850
Rated capacity: 35,640 square inch boards/hour

3) Heller Reflow Oven
Model number: unknown
Rated capacity: 35,640 square inch boards/hour

4) Vitronix Wave Solder Machine
Model number: Delta
Rated capacity: 35,640 square inch boards/hour

5) Hollis Wave Solder Machine
Model number: Unknown
Rated capacity: 35,640 square inch boards/hour

5.2 Emissions Estimates

This permitting action is not a modification; therefore, emissions estimates and emissions limits have not changed from those established for the March 13, 2003 permit. All emissions limits and estimates are the same as in the previous permit and are not discussed again here. Please refer to Appendix A of this statement of basis for emissions information.

However, after review of the submitted materials and the previously issued Tier II operating permit and permit to construct No. 001-00190 (issued March 13, 2003) DEQ found that the March 13, 2003, permit did not address the TAP emissions from the facility. According to the Material Safety Data Sheet (MSDS) that was submitted in the application the facility uses in its operation an 857 Flux. The 857 Flux contains isopropyl alcohol and hydrobromic acid. In accordance with IDAPA 58.01.01.585 the isopropyl alcohol and hydrobromic acid are considered toxic air pollutants (TAPs), which have screening emissions levels (EL) of 65.3 pounds per hour (lb/hr) and 0.0667 lb/hr, respectively. Therefore, emissions of these TAPs are estimated and shown below:

a) Isopropyl alcohol emissions estimates:

Given

According to the MSDS the weight percent of isopropyl alcohol = 75-90%

Flux throughput = 2,128 pounds/yr (Tier II operating permit No. 001-00190, issued 3/13/03)

Specific gravity = 0.7863 (Hawley's Condensed Chemical Dictionary, 2001)

Density = 0.7863 x 62.43 lb/ft^3 = 49.04 lb/ft^3

Hourly emissions: (2,128 lbs Flux/yr)(1 yr/ 8,760 hrs)(0.9) = 0.22 lb/hr

Western also uses approximately 55 gallons of isopropyl alcohol per year for surface assembly and cleaning.

(55 gallons/yr)(1 yr/ 8,760 hrs)(49.04 lb/ft^3)(1 ft^3/7.48 gallons) = 0.041 lb/hr

Therefore, total hourly isopropyl alcohol emissions from the facility = 0.22 + 0.041 = 0.261 lbs/hr or 1.14 T/yr.

The emissions rate of isopropyl alcohol from the facility are below the screening emissions levels contained in IDAPA 58.01.01.585. Thus, modeling was not performed.

b) Hydrobromic acid emissions estimates:

Given:

According to the MSDS the weight percent of hydrobromic acid in Flux < 5%

Flux throughput = 2,128 pounds/yr (Tier II operating permit No. 001-00190, issued 3/13/03)

Hourly emissions: (2,128 lbs Flux/yr)(1 yr/ 8,760 hrs)(0.05) = 0.0127 lb/hr or 0.06 T/yr

The emissions rate of hydrobromic acid from the facility are below the screening emissions levels contained in IDAPA 58.01.01.585. Thus, modeling was not required.

The TAP Emissions estimates and the MSDS, as submitted by the facility, are in Appendix B of this statement of basis.

5.3 Modeling

This permit revision did not result in increase of emissions. Thus, the air dispersion modeling was not performed.

5.4 Regulatory Review

This operating permit is subject to the following permitting requirements:

IDAPA 58.01.01.205 ..... Permit Requirements for New Major Facilities or Major Modifications in Attainment or Unclassifiable Areas

This Tier II operating permit and permit to construct does not include any Prevention of Significant Deterioration issue.

IDAPA 58.01.01.401 ..... Tier II Operating Permit

A Tier II operating permit and a permit to construct revision was requested by Western in accordance with IDAPA 58.01.01.401.01.

IDAPA 58.01.01.403 ..... Permit Requirements for Tier II Sources

All Tier II operating permit applications are required to demonstrate compliance with the terms of IDAPA 58.01.01.403. IDAPA 58.01.01.403 requires that Western demonstrate that its stationary source (i.e., facility) will comply with all applicable emissions standards, and will not cause or contribute to a violation of any ambient air quality standard.

IDAPA 58.01.01.404.01.c ..... Opportunity for Public Comment

Because this permitting action does not result in increase in any regulated air pollutant, public notice and a public comment period are not required.

IDAPA 58.01.01.406 ..... Obligation to Comply

Receipt of this Tier II permit does not relieve Western from the responsibility to comply with all federal, state, and local rules and regulations.

IDAPA 58.01.01.407 ..... Permit Processing Fees for Tier II Permits

This project is subject to the fee provisions of IDAPA 58.01.01.407, and Western will be assessed a processing fee of $500.00 for a Tier II operating permit. Processing fees were received on 8/2/04.

IDAPA 58.01.01.625 ..... Visible Emission Limitation

Emissions from all stationary point sources in the state of Idaho are required to comply with the opacity standards of IDAPA 58.01.01.625-626, unless exempted under Section 625.01. Sources at the facility are subject to this standard.

40 CFR 60 ..... New Source Performance Standards

The facility is not currently subject to the terms and provisions of any New Source Performance Standard.

40 CFR 61 and 63 ..... National Emission Standards for Hazardous Air Pollutants and Maximum Achievable Control Technology

The facility is not currently subject to any National Emission Standard for Hazardous Air Pollutants or Maximum Achievable Control Technology requirements at this time.

6. PERMIT CONDITIONS

The following section addresses each permit condition in the Tier II operating permit and associated compliance demonstration(s) required.

6.1 *Facility-wide Conditions*

Fugitive Particulate Matter - IDAPA 58.01.01.650-651

Requirement

Permit Condition 2.1 states that all reasonable precautions shall be taken to prevent PM from becoming airborne in accordance with IDAPA 58.01.01.650-651.

Compliance Demonstration

Permit Condition 2.2 states that the permittee is required to monitor and maintain records of the frequency and the methods used by the facility to reasonably control fugitive particulate emissions. IDAPA 58.01.01.651 gives some examples of ways to reasonably control fugitive emissions which include using water or chemicals, applying dust suppressants, using control equipment, covering trucks, paving roads or parking areas, and removing materials from streets.

Permit Condition 2.3 requires that the permittee maintain a record of all fugitive dust complaints received. In addition, the permittee is required to take appropriate corrective action as expeditiously as practicable after receipt of a valid complaint. The permittee is also required to maintain records that include the date that each complaint was received and a description of the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

To ensure that the methods being used by the permittee to reasonably control fugitive PM emissions whether or not a complaint is received, Permit Condition 2.4 requires that the permittee conduct periodic inspections of the facility. The permittee is required to inspect potential sources of fugitive

emissions during daylight hours and under normal operating conditions. If the permittee determines that the fugitive emissions are not being reasonably controlled, the permittee shall take corrective action as expeditiously as practicable. The permittee is also required to maintain records of the results of each fugitive emission inspection.

Both Permit Conditions 2.3 and 2.4 require the permittee to take corrective action as expeditiously as practicable. In general, DEQ believes that taking corrective action within 24 hours of receiving a valid complaint or determining that fugitive particulate emissions are not being reasonably controlled meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

Control of Odors - IDAPA 58.01.01.775-776

Requirement

Permit Condition 2.5 and IDAPA 58.01.01.776 both state that: "No person shall allow, suffer, cause or permit the emission of odorous gases, liquids or solids to the atmosphere in such quantities as to cause air pollution."

Compliance Demonstration

Permit Condition 2.6 requires the permittee to maintain records of all odor complaints received. If the complaint has merit, the permittee is required to take appropriate corrective action as expeditiously as practicable. The records are required to contain the date that each complaint was received and a description of the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

Permit Condition 2.6 requires the permittee to take corrective action as expeditiously as practicable. In general, DEQ believes that taking corrective action within 24 hours of receiving a valid odor complaint meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

Visible Emissions - IDAPA 58.01.01.625

Requirement

IDAPA 58.01.01.625 and Permit Condition 2.7 state that "(No) person shall discharge any air pollutant to the atmosphere from any point of emission for a period or periods aggregating more than three minutes in any 60-minute period which is greater than twenty percent (20%) opacity as determined . . ." by IDAPA 58.01.01.625. This provision does not apply when the presence of uncombined water, nitrogen oxides (NO_X), and/or chlorine gas is the only reason for the failure of the emission to comply with the requirements of this rule.

Compliance Demonstration

To ensure reasonable compliance with the visible emissions rule, Permit Condition 2.8 requires that the permittee conduct routine visible emissions inspections of the facility. The permittee is required to inspect potential sources of visible emissions, during daylight hours and under normal operating conditions. The visible emissions inspection consists of a see/no-see evaluation for each potential source of visible emissions. If any visible emissions are present from any point of emission covered by this section, the permittee must either take appropriate corrective action as expeditiously as practicable, or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625.

A minimum of thirty observations shall be recorded when conducting the opacity test. If opacity is determined to be greater than 20% for a period or periods aggregating more than three minutes in any 60-minute period, the permittee must take corrective action and report the exceedance in its annual compliance certification and in accordance with the excess emissions rules in IDAPA 58.01.01.130-136.

The permittee is also required to maintain records of the results of each visible emissions inspection and each opacity test when conducted. These records must include the date of each inspection, a description of the permittee's assessment of the conditions existing at the time visible emissions are present, any corrective action taken in response to the visible emissions, and the date corrective action was taken.

Should a specific emission unit have a specific compliance demonstration method for visible emissions that differs from Permit Condition 2.8, then the specific compliance demonstration method overrides the requirement of condition 2.8. Permit Condition 2.8 is intended for small sources that would generally not have any visible emissions.

Permit Condition 2.8 requires the permittee to take corrective action as expeditiously as practicable. In general, DEQ believes that taking corrective action within 24 hours of discovering visible emissions meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

Excess Emissions – IDAPA 58.01.01.130-136

Requirement

Permit Condition 2.9 requires the permittee to comply with the requirements of IDAPA 58.01.01.130-136 for startup, shutdown, scheduled maintenance, safety measures, upset, and breakdowns. This section is fairly self-explanatory and no additional detail is necessary in this technical analysis. However, it should be noted that subsections 133.02, 133.03, 134.04, and 134.05 are not specifically included in the permit as applicable requirements. These provisions of the *Rules* only apply if the permittee anticipates requesting consideration under subsection 131.02 of the *Rules* to allow DEQ to determine if an enforcement action to impose penalties is warranted. Section 131.01 states "*. . . The owner or operator of a facility or emissions unit generating excess emissions shall comply with Sections 131, 132, 133.01, 134.01, 134.02, 134.03, 135, and 136, as applicable. If the owner or operator anticipates requesting consideration under Subsection 131.02, then the owner or operator shall also comply with the applicable provisions of Subsections 133.02, 133.03, 134.04, and 134.05.*" Failure to prepare or file procedures pursuant to Sections 133.02 and 134.04 is not a violation of the *Rules* in and of itself, as stated in subsections 133.03.a and 134.06.b. Therefore, since the permittee has the option to follow the procedures in Subsections 133.02, 133.03, 134.04, and 134.05; and is not compelled to, the subsections are not considered applicable requirements for the purpose of this permit and are not included as such.

Compliance Demonstration

The compliance demonstration is contained within the text of Permit Condition 2.9. No further clarification is necessary here.

Fuel-Burning Equipment – IDAPA 58.01.01.675

Permit Condition 2.10 requires the permittee to comply with the fuel-burning equipment rule. The compliance demonstration is contained within the text of IDAPA 58.01.01.675.

This regulation establishes PM emission standards for fuel-burning equipment. Fuel-burning equipment is defined in IDAPA 58.01.01.006.41 as "Any furnace, boiler, apparatus, stack and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer."

Air Pollution Emergency Rule – IDAPA 58.01.01.550-562

Permit Condition 2.11 requires the permittee to comply with the air pollution emergency rule. The compliance demonstration is contained within the text of IDAPA 58.01.01.550-562. No further clarification is necessary.

Open Burning – IDAPA 58.01.01.600-616

All open burning shall be done in accordance with IDAPA 58.01.01.600-616.

Monitoring and Recordkeeping

The permittee is required to maintain recorded data in an appropriate location for a period of at least five years. The compliance demonstration is contained within the text of the permit condition. No further clarification is necessary.

Reports and Certifications

All periodic reports and certifications required by the permit shall be submitted within 30 days of the end of each specified reporting period to the appropriate DEQ and EPA regional office.

6.2 *Emissions Units Permit Conditions*

This revised permit contains the same applicable requirements that existed in Tier II Operating Permit and Permit to Construct No. 001-00190, issued March 13, 2003. The emissions estimates for this permit were based on the analyses conducted by Bob Baldwin of the DEQ's Boise Regional Office for the permit's original technical and regulatory analysis for the permit issued on August 23, 2002.

The permittee requested to delete Permit Condition 4.10 "Flux Solid Content Monitoring". DEQ has not revised this permit as requested. The monitoring and recordkeeping of the flux non-volatile, or solids content is required to be in the permit because it is a component of the overall PM_{10} emissions from the facility.

7. PUBLIC COMMENT

Because this permitting action does not result in an increase in any regulated air pollutant, public notice and a public comment period were not provided.

8. FEES

A Tier II operating permit processing fee of $500.00 is required as per IDAPA 58.01.01.407. Processing fees were paid by Western on 8/2/04.

Western facility is not a major facility as defined in IDAPA 58.01.01.008.10. Therefore, registration fees are not applicable in accordance with IDAPA 58.01.01.387.

9. RECOMMENDATION

Based on the review of the application materials, and all applicable state and federal regulations, staff recommends that DEQ issue the final revised Tier II operating permit and permit to construct No. T2-040008 to Western Electronics, Inc. Because this permitting action does not result in an increase in any regulated air pollutant, public notice and a public comment period were not provided.

HE/bf Project No. T2-040008

APPENDIX A

Western Electronics, Inc., Meridian
T2-040008

10. AIRS INFORMATION

AIRS/AFS[a] FACILITY-WIDE CLASSIFICATION[b] DATA ENTRY FORM

AIR PROGRAM / POLLUTANT	SIP	PSD	NSPS (Part 60)	NESHAP (Part 61)	MACT (Part 63)	TITLE V	AREA CLASSIFICATION A – Attainment U – Unclassifiable N – Nonattainment
SO_2	B						U
NO_x	B						U
CO	B						U
PM_{10}	B						U
PT (Particulate)	B						U
VOC	B						U
THAP (Total HAPs)	B						U
			APPLICABLE SUBPART				

[a] Aerometric Information Retrieval System (AIRS) Facility Subsystem (AFS)

[b] AIRS/AFS Classification Codes:

A = Actual or potential emissions of a pollutant are above the applicable major source threshold. For NESHAP only, class "A" is applied to each pollutant which is below the 10 ton-per-year (T/yr) threshold, but which contributes to a plant total in excess of 25 T/yr of all NESHAP pollutants.

SM = Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.

B = Actual and potential emissions below all applicable major source thresholds.

C = Class is unknown.

ND = Major source thresholds are not defined (e.g., radionuclides).

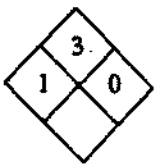
APPENDIX B

Western Electronics, Inc., Meridian
T2-040008

Emission Estimates and the MSDS for 857 Flux

MATERIAL SAFETY DATA SHEET

alphametals
600 Route 440
Jersey City, NJ 07304
Tel: (201) 434-6778



Number 0000387
Revision 8/25/94

SECTION I. GENERAL INFORMATION

PRODUCT NAME (NUMBER) 857 Flux

CHEMICAL FAMILY Mixture.
D.O.T. HAZARD CLASS Flammable liquid.

SECTION II. HAZARDOUS INGREDIENTS

	INGREDIENTS	CAS NUMBER	WEIGHT PERCENT	OSHA PEL	ACGIH TLV
TAP	Isopropyl Alcohol	EL 46.3 lb/hr 67-63-0	75-90	400 ppm	400 ppm
TAP	Hydrobromic Acid (48%)	0.0667 lb/hr 10035-10-6	<5	3 ppm	3 ppm

SECTION III. PHYSICAL DATA

(PUBLISHED OR ESTIMATED VALUES)

BOILING POINT Deg F (760 mm Hg)	180	SPECIFIC GRAVITY (H2O=1) (@ 77 deg F)	0.865
VAPOR PRESSURE (mm Hg at 25 Deg C)	33	% VOLATILE BY WEIGHT	80
		EVAPORATION RATE (BuAc=1)	2.8
VAPOR DENSITY (AIR=1)	2.1	pH (5% solution)	2.75
SOLUBILITY IN WATER	Complete		
APPEARANCE AND ODOR	Clear, colorless to pale yellow liquid, non-reisdual odor.		

SECTION IV. FIRE AND EXPLOSION HAZARD DATA

ESTIMATED FLAMMABLE LIMITS (% By volume in air) LEL: 2.0 UEL: 12.0
FLASH POINT Deg F. T.C.C. 60

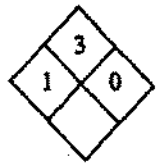
EXTINGUISHING MEDIA Carbon dioxide or dry chemical.

SPECIAL FIRE FIGHTING PROCEDURES Use NIOSH approved self-contained breathing apparatus in an enclosed area.

UNUSUAL FIRE AND EXPLOSION HAZARD Vapors are heavier than air and may travel along ground. Never use welding torch on or near containers (even empty).

NA - NOT APPLICABLE NE - NOT ESTABLISHED NL - NOT LISTED UN - UNKNOWN

alphametals
600 Route 440
Jersey City, NJ 07304
Tel: (201) 434-6778



857 Flux

SECTION V. (A) HEALTH HAZARD DATA (Symptoms/Effects of Overexposure)

INHALATION: Can cause nasal irritation, dizziness, nausea, headache.

INGESTION: Can cause gastrointestinal irritation, nausea, vomiting and diarrhea.

SKIN: Prolonged or repeated contact can cause defatting and dermatitis.

EYES: Can cause severe irritation, tearing, blurred vision.

LISTED CARCINOGENS: NONE.

SECTION V. (B) HEALTH HAZARD DATA (Emergency and first aid procedures)

INHALATION: If affected, remove individual to fresh air. If breathing is difficult, administer oxygen.

INGESTION: Call physician or Poison Control Center immediately. Never give anything by mouth to an unconscious person.

SKIN CONTACT: Wash exposed area with soap and water. Remove contaminated clothing.

EYE CONTACT: Flush with large amount of water lifting upper and lower lids occasionally. Get medical attention.

SECTION VI. REACTIVITY DATA

STABILITY
STABLE : X **UNSTABLE:**

CONDITIONS TO AVOID: Heat, sparks and open flames.

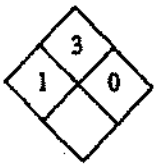
INCOMPATIBILITY (Materials to avoid) Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS Carbon dioxide and carbon monoxide.

HAZARDOUS POLYMERIZATION
WILL OCCUR: **WILL NOT OCCUR:** X

CONDITIONS TO AVOID: None.

alphametals
600 Route 440
Jersey City, NJ 07304
Tel: (201) 434-6778



857 Flux

SECTION X. ADDITIONAL INFORMATION

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: (continued)

LARGE SPILL:

Persons not wearing protective equipment should be excluded from area. Dike area of spill to prevent spreading. Pump liquid to salvage tank. Take up remaining liquid with absorbent material. Shovel into containers.

REGULATORY INFORMATION

Toxic Substance Control Act (TSCA) Status:
All ingredients of this product are listed on the TSCA inventory.

SARA TITLE III (Section 313):
Components present in this product at a level which could require reporting under the statute are:
None

EMERGENCY TELEPHONE NUMBER

CHEMTREC **1-800-424-9300** **DAY OR NIGHT**

June 4, 2004

Harbi Eschalfe
Department of Environmental Quality
1410 North Hilton
Boise, Idaho 83706

Subject: Potential Isopropanol emissions at Western Electronics, Inc.

Dear Mr. Eschalfe,

Western Electronics uses a bulk liquid flux in their wave solder machines. The two liquid fluxes currently in use are "857" and "Surf 11". "857" contains 70% to 80% Isopropanol (Isopropyl Alcohol) by weight. "Surf 11" contains no HAP's. Operating requirements in Air Quality Permit number 001-00190 limits flux throughput for both wave solder machines to 5.83 lb/day and 2,128 lb/year. 2003 flux throughput for both wave solder machines was 788.9 pounds of which approximately 75% was "857" and 25% was "Surf 11". The potential Isopropanol emission rate for both wave solder machines can be calculated based on using "857" at 80% Isopropanol by weight and the throughput limit of 2,128 lb/yr.

$$\left(\frac{2{,}218\ \text{lb flux/yr}}{8{,}760\ \text{hrs/yr}}\right)\left(\frac{0.8\ \text{lb isopropanol}}{\text{lb flux}}\right) = 0.1943\ \text{lb isopropanol/hr}$$

Western Electronics also uses approximately 55 gallons of Isopropanol per year for surface and assembly cleaning. Based on this usage, an 80 hr workweek and a specific gravity of 0.7855 for Isopropanol, a potential fugitive emission rate can be calculated.

$$\left(\frac{55\ \text{gal isopropanol/yr}}{(52\ \text{weeks/yr})(80\ \text{hrs/week})}\right)\left(\frac{0.7855\ \text{lb isopropanol}}{\text{lb water}}\right)\left(\frac{8.3457\ \text{lb water}}{\text{gal}}\right) = 0.0867\ \text{lb isopropanol/hr}$$

The calculations show that potential Isopropanol emissions from the wave solder machines and fugitive sources are well below the emission screening level of 65.3 lb/hr for Isopropanol found in IDAPA 58.01.01.585.

If you have any questions or require additional information, please feel free to call me.

Sincerely,

Randy Norell
Spidell and Associates

cc: Bill Hinson
Western Electronics, Inc.